DOCKET FILE COPY ORIGINAL

96-86

From: <ejdempsey@postoffice.worldnet.att.net>
To: A4.A4(FCCINFO)
Date: 1/26/98 4:55pm
Subject: Reply Comments of NPSTC re: 96-86

Gentlemen:

Please acept these reply comments filed electronically at the direction of NPSTC's Chairperson Marilyn B. Ward. I attempted to file the comments in the ECFS system however the filing was rejected. Please contact Lt. Edward Dempsey at 212-374-5545 if you have any questions or cannot accept these comments as filed. Copies of the comments are being forwarded by Fedex also.

Lt. Edward Dempsey
ejdempsey@worldnet.att.net
or
edempsey@nypd.org

CC: FCCMAIL.SMTPNLM("rschliem@Capital.Net","ejdempsey@...

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
The Development of Operational,	)	WT Docket No. 96-86
Technical and Spectrum Requirements	)	
For Meeting Federal, State, and Local	)	
Public Safety Agency Communication	)	
Requirements Through the Year 2010	)	
	)	
Establishment of Rules and requirements	)	
For Priority Access Service	)	

REPLY COMMENTS
of the
NATIONAL PUBLIC SAFETY TELECOMMUNICATIONS COUNCIL

TO THE COMMISSION:

INTRODUCTION

The National Public Safety Telecommunications Council (NPSTC) is a federation of associations representing public safety telecommunications. It was formed May 1, 1997 during its charter meeting in Washington, D.C. NPSTC charter organizations include:

American Association of State Highway transportation Officials (AASHTO)
Association of Public-Safety Communications Officials- International (APCO)
Forestry Conservation Communications Association (FCCA)
International Chiefs of Police (IACP)
International Association of Fire Chiefs (IAFC)
International Association of Fish and Wildlife Agencies (IAFWA)
International Municipal Signal Association (IMSA)
National Association of State Emergency Medical Services Directors (NASEMSD)
National Association of State Foresters (NASF)
National Association of State Telecommunications Directors (NASTD)
National Coordinating Council for Emergency Management (NCCEM)
U.S. Department of Agriculture (US DoA)

January 26, 1998

NPSTC was created to encourage and facilitate implementation of the findings and recommendations of the Public Safety Wireless Advisory Committee (PSWAC) - a federal advisory committee jointly established by the Federal Communications Commission (Commission) and the National Telecommunications and Information Administration (NTIA). Specifically, the NPSTC charter directs that NPSTC shall develop and make recommendations to appropriate governmental bodies regarding public safety communications issues; shall serve as a standing forum for the exchange of ideas and information regarding public safety communications policies that promote greater interoperability and cooperation between federal, state and local public safety agencies; shall identify and promote methods for funding development of public safety communications systems; shall sponsor and conduct studies of public safety communications; and shall perform such other functions as the governing Board deems appropriate, consistent with relevant law. Pursuant to the mandate of its charter, NPSTC is pleased to submit these reply comments in this proceeding.

REPLY COMMENTS

Many of the commenters supported the Commission's definition of public safety eligibility as defined in the Congressional mandate. NPSTC urges the Commission to adopt the broader definition as recommended by PSWAC. A limited interpretation of the definition of "public safety" presents problems which may interfere with the allocation of this spectrum. The Commission, through refarming, encourages government agencies to be more spectrally efficient. To this end, many agencies will specify "trunking" to extract the maximum benefit from their spectrum. The definition of eligibility must not preclude certain governmental entities which can benefit from this technology. The Commission's definition is not clear as to which governmental functions are included in the category of "public safety". The lack of a clear definition may also effect the ability

of these systems to satisfy the broad requirements of interoperability as recommended by PSWAC.

Presently, some public service entities as defined by PSWAC [PSWAC Final Report at pages 44 and 45] are developing shared communication infrastructures with State and Local Government agencies. Besides the economic value of State and Local Government agencies sharing resources with such presently "ineligible" partners, the positive benefit achieved through interoperability is in the best interests of the public. Frequently extreme weather conditions, hazardous material events, and other catastrophes require close coordination between all levels of government and the public utilities. The entire Public Safety definition recommended by PSWAC, at pages 44 and 45 of their Final Report, para. 4.3.2.3.4, provides a clear, all-inclusive basis for the National State and Local interoperability plans to deal with these relationships for maximum benefit to the public.

American Water Works, in para. 7, 8 and 10, makes a case for interoperability. NPSTC believes again that the PSWAC definitions allow for such interoperability where the water utility company is non-governmental, supplying water to the public under government contract as a water district. If the water utility is a governmental operation, as is the case generally, the PSWAC definition classifies them as Public Safety.

NPSTC believes that by channeling for 12.5 kHz and allowing aggregation/disaggregation, the Commission can best meet the needs of Public Safety. Narrowband digital communication can be accommodated on 12.5 kHz channels. Channels can be aggregated for 25 kHz channel width that will permit medium bandwidth digital communication. And at such time as technology and manufactured products permit 6.25 kHz communication, the channels can be disaggregated.

However, at this time, NPSTC feels that the technical requirements for 6.25 kHz bandwidth are premature for this frequency band. We note that PSWAC referred to improved modulation efficiency being "expected" by the year 2010, some 12 years into the future [PSWAC Final Report on page 38 at para. 4.2.25]. It can be readily appreciated that the confusion created in the marketplace by the Commission developing refarming channel width standards so far in advance of the availability of manufactured equipment has had a noticeable adverse impact on new radio system procurements. NPSTC recommends that the Commission allow industry standards to develop before mandating 6.25 KHz channel widths in this frequency band.

Additionally, with the variety of technical performance characteristics that do exist for equipment in this band, including digital communication systems, the concept of interleaving channels by geographical offset only further complicates the coordination process. NPSTC recommends that until such time as radio equipment is developed for 6.25 kHz single channel public safety operations, the Commission delay implementing a 6.25 kHz channel plan in the 764-776/794-806 MHz band.

Motorola suggests that interoperability channels use 25 kHz channel widths. For the same reasons cited above, NPSTC recommends 12.5 kHz channel widths as being more spectrum efficient. While Motorola did not support a digital standard, it did suggest that the Commission should require a standard. NPSTC recommends both the analog baseline standard for interoperability and the establishment of a digital baseline standard for interoperability. Digital radios cannot communicate if they use different technical standards. Therefore, to ensure interoperability among digital radio users, a 12.5 kHz bandwidth is also recommended for the digital baseline for interoperability.

Ericsson has recommended too many interoperability calling channels. The cost

of infrastructure development and the operational cost associated with having to monitor so many separate calling channels renders that proposal inefficient and not likely to succeed on a national basis. NPSTC recommends that such nationwide interoperability operational issues be resolved in a National Planning Committee.

The State of Florida recommends that channels be distributed in a manner which permits the use of 250 kHz duplexer channel spacings for 12.5 kHz channel widths (and 25 kHz aggregated channels), and 450 kHz duplexer spacings for 150 kHz wide channels. NPSTC urges the Commission to recognize the importance of this recommendation both from an economic and technical perspective. The installation of multiple antenna systems achieve system performance significantly impacts upon tower construction and siting issues.

MA-COM, a manufacturer of 25 kHz digital radio modem equipment, seeks a continuation of this historical channel width. NPSTC supports a basic 12.5 kHz channel width and allowance for channels to be aggregated/disaggregated as required to meet the necessary data rate transmission requirements. However, we believe that modern 12.5 kHz equipment can meet the majority of the low speed (up to 9.6 kbps) mobile data needs of public safety at this time.

Maximum Service Telecasters suggest that 6.25 kHz channel widths be required. NPSTC sees this more as a delaying tactic. NPSTC supports the development of more efficient use of the spectrum, and to the extent that 6.25 kHz communications channels can be achieved [currently in TDMA], FDMA systems are not available at 6.25 kHz. FDMA systems constitute the majority of licensed systems in public safety.

In regard to the comments of the American Red Cross (ARC), it should be noted

that ARC is chartered by Congress. Their need for radio communications for coordination of disaster recover efforts clearly demonstrates a need to use the PSWAC definitions as cited previously above.

Ericsson suggests that only minimal technical standards be established. However, to ensure that agencies with different systems can talk together, NPSTC believes it is essential that equipment be required to meet an analog baseline for interoperability, and if digital, a digital baseline for interoperability. This does not preclude the radio equipment from having other modes of operation.

Both Motorola and Ericsson suggest that public safety receiver performance be left to a market place decision by the customer. As noted in the State of Florida's comments at paragraphs 6 and 24, "Many of the large public safety agencies are sufficiently knowledgeable to avoid the degradation caused by inferior receivers, but the vast majority, contrary to the Commission's opinion, are not 'in the best position to determine whether the receiver performance satisfies their needs.' The vast majority have no experience or knowledge of system engineering, frequency coordination, channel re-use, receiver selectivity, or desensitization. They depend on agencies like ourselves (Florida), user advocate groups and the FCC to somehow make everything work. Our (Florida) knowledge as engineers, and long experience in frequency coordination, confirms that receiver quality is one of the key factors in making everything work, and the lack of receiver standards will disrupt even the most carefully laid channel re-use or frequency coordination plans." Furthermore, the use of a radio system coverage analyses in accordance with TIA TR8 WG8.8's report (anticipated soon to become a national standard) will require receiver performance data to develop interference contours.

NPSTC strongly urges the establishment of receiver standards for public safety to protect licensees from harmful interference. The most important distinguishing factor in the comparison of portable, mobile and base station radio equipment is the receiver performance specifications. While NPSTC recommends that the Commission adopt receiver standards for Public Safety, if the Commission is not able to do this, we at least request that the Commission establish frequency coordination guidelines which require TSB-88 (This TIA standards effort, resulting from the TIA TR-8 Work Group 8.8 final report, was incorrectly referred to in NPSTC Comments as TSB-77, TIA corrected this reference in the TIA meetings at Daytona on January 22, 1998) procedures be followed using reference public safety receiver recommended performance parameters to be jointly developed by TIA and the user community. This is necessary to protect licensees from interference.

FLEWUG recommends that interoperability be controlled at a National Planning Committee level, however a consensus of NPSTC members believes that while uniformity of interoperability channels should be established at the National level, the details of the operational aspects are best resolved at a planning level more proximate to the areas where they will be used. The National Plan must take into consideration the issues which are pertinent to the State and local operations. UTC and API note their need to have access to the interoperability channels. API however, does not feel it should use those channels as a "guest" of the governmental licensee. NPSTC reiterates its recommendation that all public safety spectrum be licensed to governmental authority. The working relationships between utility companies and governmental agencies on the use of interoperability channels should be resolved at the Planning Committee level.

Compu-Dawn, a provider of computer services to public safety agencies, argues

that it should have access to the public safety channels. NPSTC believes that if a company has a contractual responsibility to a government agency that requires it to use radio channels of the government agency, that need can be dealt with under 47CFR90.421, and does not require an independent license authority be granted to it. In the case of Compu-Dawn, which does not provide a public safety service such as police, fire or medical services, and only provides information services NPSTC affirms its position that the licenses should only be granted to a governmental agency.

NPSTC has a limited understanding of the RTCA/DO-235 study and all of the Global Navigation Satellite System (GLONASS) interference issues. However, NPSTC does understand that the FAA is requesting interference protection to GLONASS receivers from narrowband interference sources at the level of -80 dBW. This is 37 dB below the typical out-of-band emission limit of -43 dBW for land mobile radio transmitters. NPSTC further understands that the second harmonic of transmitters operating in the 799 - 802.5 MHz range fall within the 1598 - 1605 MHz range of GLONASS L1 frequencies. The mobile satellite community also opposes the emission levels proposed by the FAA and they are recommending a narrowband out-of-band emission level of -64 dBW for mobile earth stations. This level is 16 dB less restrictive than the proposed FAA level. NPSTC is concerned about several aspects of the effect either of these restriction levels could have on land mobile radios. First, and foremost, is that fact that it is unknown whether either of these reductions in out-of-band emission from equipment case or antenna radiation can practically be achieved by equipment manufacturers. Second, is the concern that additional filtering and shielding will adversely impact the size and weight of portable radio equipment. And lastly, but by no means insignificant to governmental public safety entities, is the cost impact caused by such changes. The frequency range of concern, 799 - 802.5 MHz falls within the "high speed data" and "reserved" spectrum blocks of the frequency plan that has been

proposed by NPSTC and supported by many others. While voice and low speed data systems could be implemented using current LMR technology for out-of-band emission reduction, high speed data system implementation may be blocked due to interference concerns with GLONASS receivers. Extremely restrictive out-of-band emission requirements will drive up the cost of these data radios. If the land mobile radio manufacturers cannot meet these restrictive levels, then either there will be no data products available or data products not meeting these levels will not be used where they are needed most -- in major urban areas with major airports.

It is an interesting observation that United States Policy has created a market for the use of GLONASS by restricting the accuracy of the U.S. Global Positioning Satellite System (GPSS) available to non-military uses, particularly when the technological work-around of differential correction negates the military strategic value that intentional creation of location and elevation error provides. This work-around solution has the further adverse affect of requiring substantial additional channels to transmit the correction data to public safety units. GPSS uses broadband spread spectrum technology which is inherently impervious to narrowband carrier interference. One solution to the GLONASS receiver issue is to remove from GPSS the introduction of location and elevation errors (the Selective Availability "feature"), and the requirement that aircraft use GPSS and not GLONASS when operating within United States boundaries. NPSTC opposes the extremely stringent levels proposed by the FAA and is concerned about the cost, size, weight and availability of land mobile radio equipment required to meet even the proposed MSS levels.

Respectfully Submitted,

Marilyn Ward

Interim Chairperson
NPSTC
(Submitted Electronically)